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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-----------------------|---------------------|------------------|
| 10/720,517 | 11/25/2003 | Franklin D. Lomax JR. | 244508US23 CONT | 5138 |
| 22850 | 7590 | 03/09/2004 | EXAMINER | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | SPITZER, ROBERT H | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1724 | |

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,517

Applicant(s)

LOMAX, FRANKLIN D.

Examiner

Robert H. Spitzer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-7,10,12-19 and 51-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 51-56 is/are allowed.
- 6) ☒ Claim(s) 1,5-7,10 and 12-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/25/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The specification must include a cross reference to the parent case under the continuing data portion thereof.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1,5-7,10 and 12-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is indefinite because there is no direct antecedent basis for the recitation of "the no more than five valves per vessel" in line 4. Claims 5-7,10 and 12-19 are indefinite because they depend from above indefinite claim 1.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1,5,10 and 16-18 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by the process of Ji et al. (6,017,382). A first equalization conduit is the conduit connected together by valves 76,82,88 and 94 to each of adsorber vessels 10,12,14 and 16, respectively, so that a three stage pressure equalization is conducted using five valves per adsorber vessel. Note, that the valves 76,82,88 and 94 do not prevent flow along the first equalization conduit to any of the other adsorber vessels.

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6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ji et al. (6,017,382) in view of Esselink (6,579,346). The claim differs from the disclosure of Ji et al. ('382) in the adsorption process occurring in six adsorber vessels. Esselink ('346) shows four, five or six vessel adsorber PSA processes, wherein there are only five valves being used per adsorber vessel. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to operate the process of Ji et al. ('382) within six adsorber vessels in place of the four vessels now being used, in view of the showing of Esselink ('346), as Esselink ('346) provides the alternative showing of using six vessels with the same number of five valves as were used with four vessels.

8. Claims 12-15 and 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. The remaining references listed on both the PTO-1449 and the PTO-892 show art of interest.

10. Applicant's response to this Office action should also include the following editorial changes in addition to the continuing data: para. [0026], line 2, "lines" should be "lines. "; para. [0032], line 13, "us" should be "is"; para. [0046], line 2, "of" should be inserted after the first occurrence of "each"; para. [0065], line 4, provide the appropriate

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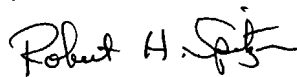
number after "conduit"; para. [0072], line 7, "valve" should be "valves", and in line 8, "about" should be "above"; para. [0093], line 4, provide the appropriate number after the word "conduit"; para. [0094], line 2, "of" should be inserted after "each"; para. [00116], line 2, "of" should be inserted after "each"; and, in para. [00119], line 1, "12" should be "120".

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert H. Spitzer whose telephone number is (571) 272-1167. The examiner can normally be reached on Monday-Thursday from (5:30AM-4:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 2, 2004


Robert H. Spitzer
Primary Examiner
Art Unit 1724
March 2, 2004